Work Order ID 107160 *107160* Page 1 September-23-13 11:10:09 AM D3934-041 Accept *N900040100* Item ID: Setup Start **Revision ID:** Stop Clip Assembly Item Name: *12* **Start Qty: 12.00 Start Date:** 9/18/13 **Cust Item ID:** Req'd Qty: 12.00 Required Date: 9/23/13 **Customer:** Reference: Run Process Plan: MLJ Date: 13-01-24 Tooling: Date: Approvals: Stop Date: SPC (Y/N): Date: OC: Reject Reject Operation Set Up/ Tool ID Tool # Plan Insp. Accept Sequence ID/ Number Stamp Qty Code Qty Work Center ID Description **Run Hours Draw Nbr Revision Nbr** D3934 RevA 0.00 100 24 EZ 13-10-17 *100* 0.00 Waterjet Memo 1-Cut as per Dwg D3934 FLOW CNC Waterjet Dwg Rev: 304.040 Prog Rev: 2-Deburr if necessary QC2- Inspect parts off machine FAI/FAIB 0.00 110 24 EL 13-10-17 *110*

0.00

Memo

OC

Quality Control

							-				DQA:	Date	:
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	MANCE / UP	PDATE			
											QA Closed:	Date	:
Work Ord	er.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	· · · · ·
i i i i i i i i i i i i i i i i i i i	٠٠					Rework	1		Skid-tube	Crosstube	1	Water Jet	Engineering
Part I	No.					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
	•		.,			Use-as-is	1		noforming	Finishing	4	re/Packaging	Other
NCR I	No.					Work Order Update	1		Large Fab	Composite		Supplier	
									<u> </u>		_		
Root						ption of work order update	1	Initial		ction	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Desc	cription	Date	Verification	QC Inspector
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		Bending				Bend		Grain			Ovalized		Pressure/Forced
	L	Centre N	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct [Weld
		Crushed/	Crimped			Burrs		Instruct	ions Incomplete,	/Unclear	Part Lost/Mi	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		
		Heat Trea	at			Countersink		Mislabe	led		Positioned V	Vrong	
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	i		Power Loss/	Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ord September-23-1				*10	716	N *							Page 2
Item ID: Revision ID:	D3934-041		- 	Accept	*N	900	040	100)*	Setup	Start	IV.	S1*
Item Name:	Clip Assembly	/									Stop	*N.	S 2*
Start Date: Required Date: Reference:	9/18/13 : 9/23/13	Start Qty: 12.00 Req'd Qty: 12.00	*12* *12*			ust Item I ustomer:	D:						
Approvals:	Process Pla	n:	Date:	Tooling:		Da	ate:			Run	Start	*NF	₹1*
	QC:		Date:	SPC (Y/N):	-11811 - 188	Da	ate:				Stop	*NI	R2*
Sequence ID/ Work Center I	i D	Operation Description		Set Up/ Run Hours	,	Tool ID	Tool #	Plan Code	Accept Qty	Re	•	Reject Number	Insp. Stamp
*120 *120* QC		QC8- Inspect parts - seco	nd check	0.00 DA 27 9-8: 0.00 B	? 9				34				
Quality Control				D D	- 1 /								13/10/10
*130			·	0.00					240	(
Brake NC Brake NC		Memo 1- C'sink hol	les as per dwg	0.00					24				13/60/
		2- Bend as p	er dwg D3934										
*1 4 0		QC5- Inspect part comple	eteness to step on W/O	0.00 27 9-8	,				1				
QC Quality Control		Memo		0.00 13	10.17			•	7				

Quality Control

											DQA:	Date:	
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		-		!!*		DISPOSITION				AGAINST DE			
Work Orde	er:					_ DISPOSITION	_	·	_	Adamsi be	, AKTIVILIYI,		_
Part N	lo					Rework Scrap Use-as-is	 	ľ	Skid-tube Machining noforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR N	lo					Work Order Update	_	1	Large Fab	Composite		Supplier	
Root					Descri	ption of work order update		Initial	Ac	tion	Sign &		
Cause	D	ate	Step	Qty	·	or Non-conformance	Cł	nief Eng	Desc	ription	Date	Verification	QC Inspector
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		ding			_	Bend		Grain		-	Ovalized	<u> </u>	Pressure/Forced
	_		t Concer	ntric to	o/s	BOM/Route	_	Hardwa			Over/Under	<u> </u>	Temperature/Cure
	Cra				-	Broken/Damaged	_	⊣	on Incomplete		Part Incorre	·	Weld
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	Cuf				<u> </u>	Contamination	\vdash	Mainte		-	Part Moved		
	\vdash	t Trea	-		<u> </u>	Countersink	\vdash	Mislabe			Positioned V		7 .
	Ins	pection	Strip in	Tube	- 1	Cut Too Short	1	Misread			Power Loss/	Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

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Work Order ID 107160 *107160* Page 3 September-23-13 11:10:09 AM Item ID: D3934-041 Accept Setup Start *N900040100* **Revision ID:** Item Name: Clip Assembly **Start Oty: 12.00 Start Date:** 9/18/13 **Cust Item ID:** Req'd Qty: 12.00 Required Date: 9/23/13 **Customer:** Reference: Run Process Plan: Date: Tooling: Approvals: Date: Stop Date: SPC (Y/N): Date: Tool ID Tool # Plan Reject Reject Insp. Sequence ID/ Operation Set Up/ Accept Description **Work Center ID** Run Hours Qty Qty Number Stamp Code 144 0.00 *111* Small Fab 0.00 Memo INSTALL NUTPLATE AS PER DWG Small Fab DAS 27 146 QC5- Inspect part completeness to step on W/O 0.00 Memo Quality Control Identify as per dwg & Stock Location: 57073 150 *150*

0.00

Memo

Packaging

Packaging

13

											DQA:	Date	:
NCR: Y	⁄es	/ No				WORK ORDER NON-	COI	NFORM	MANCE / UPD	ATE	OA Classed	Data	
						•		T			QA Closed:	Date	•
Work Orde	sr.					DISPOSITION	•			AGAINST DE	PARTMENT	/PROCESS	
Part N	- ِ No.					Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
	•					·					•		
Root					Descri	ption of work order update		Initial	Actio	on	Sign &		
Cause	\Box	Date	Step	Qty	(or Non-conformance	Cł	nief Eng	Descrip	otion	Date	Verification	QC Inspector
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Equip/Tooling				1 1			1						
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!		Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre N	ot Conce	ntric to (o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged	Г	Inspecti	on Incomplete		Part Incorre	ct	Weld
		Crushed/	Crimped			Burrs		4	ions Incomplete/Ur	nclear	Part Lost/M	issing	Wrong Stock Pulled
	_	Cuffs	•			Contamination		Mainte			Part Moved		
		Heat Trea	at			Countersink		Mislabe	eled		Positioned V	Vrong	
		Inspectio		1 Tube		Cut Too Short		Misread			Power Loss/		Other
		Ripples in				Drill Holes		Offset			.	- <u>L</u>	

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

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Work Orde September-23-1.				*107	7160*							Page 4
Item ID: Revision ID:	D3934-041			Accept	*N900	040	100)* s	etup	Start Stop		S1*
Item Name: Start Date: Required Date: Reference:	Clip Assembly 9/18/13 9/23/13	Start Qty: 12.00 Req'd Qty: 12.00	*12* *12*		Cust Item I Customer:	D:				У	^NX	S 2*
Approvals:	Process Plan	n:	Date:	Tooling:	Da	ite:	- · - · - · - · · - · · · · · · · · · ·	R	tun	Start Stop	*NI	₹1*
•	QC:		Date:	SPC (Y/N):	Da	nte:				Stop	*NI	R2*
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reje Qty		Reject Number	Insp. Stamp
*160 *160* QC		QC21- Final Inspection -	Work Order Release	0.00					A)	121	13-1	0-21

Memo

Quality Control

40/14/3-10-21 W13-10-21

										DQA:	Date:	
NCR: Yes	/ No				WORK ORDER NON-	CON	IFORI	MANCE / UPI				
-										QA Closed:	Date:	
Work Order:					DISPOSITION	1			AGAINST DE	PARTMENT	/PROCESS	
Work Order.					Rework] [Skid-tube	Crosstube		Water Jet	Engineering
Part No.					Scrap] [Machining	Small Fab		d. Eng. Coor.	Quality
NCR No.					Use-as-is Work Order Update	┨╟	Thern	noforming Large Fab	Finishing Composite	Rec/Sto	re/Packaging Supplier	Other
Nek No.					Work Order opdate	-		raige rab	composite[Supplier	Ш
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Cause	Date	Step	Qty		or Non-conformance	Chi	ief Eng	Desci	ription	Date	Verification	QC Inspector
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Landing	Gear		·		General					•		
1	1				1							

Pressure/Forced Bending Ovalized Bend Grain Centre Not Concentric to O/S BOM/Route Over/Under tolerance Temperature/Cure Hardware Broken/Damaged Inspection Incomplete Part Incorrect Weld Cracks Crushed/Crimped Burrs Instructions incomplete/Unclear Part Lost/Missing Wrong Stock Pulled Cuffs Part Moved Contamination Maintenance Mislabeled Heat Treat Countersink Positioned Wrong Other Inspection Strip in Tube Cut Too Short Misread Power Loss/Surge Drill Holes Offset Ripples in Bend Torque Waves in Extrusion Drawing Out of Calibration Turning Sequence Finish Out of Sequence Wave/Twist in Tube Folio Outside Dimensions

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Page 1

Work Order ID:

107160

Parent Item:

D3934-041

Parent Item Name:

Clip Assembly

Start Date: 9/18/13

Required Date: 9/23/13

Start Qty: 12.00

Required Qty: 12.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status	_
M304S20GA 304/316 .040 Sheet		Purchased	No			150	sf	286.1900	0.021	0.2652636 EZ /3	-10-1	7		
				Location		Loc Qty	<u>L</u>	oc Code						
				MAT020		286.19001								
					125754	52.49001			·	A 5 6				DAG
MS21075L3		Purchased	No	m	126852	233.7 150	Each	391.0000	1	<u>0 . 8 8</u> 12	/3 /	/10/2		DAS 36 9-89
Nut Plate				Location		Loc Oty	<u>L</u>	oc Code	Carried State Control of State Control o	- MARY	~/	10/17		
				ST318		5								
				13	23832	5								
				st507		386				- 1				
					25646	386				24		i	,	
MS20426AD3-3 RIVET		Purchased	No			100	Each	4,822.0000) 2	24	£	3/10/	/17	DAS 36 98:
				Location		Loc Oty	<u>L</u>	oc Code				/ /		∞ €:
				ST316		699								
					19109	282								
				1	9099	417								
				ST333		4123								
					21011	29								
				1	22814	120								
				1	23352	3974				18				

NCR: Yes	/ No				WORK ORDER NON-C	ONFORI	MANCE / UP	DATE	DQA:		x •
									QA Closed:	Date:	
Work Order:					DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part No.					Rework Scrap Use-as-is Work Order Update		Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root Cause	Date	Step	Qty	i '	ption of work order update or Non-conformance	Initial Chief Eng	ì	tion ription	Sign & Date	Verification	QC Inspector
Doc/Data											·

Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved **FAULT CATEGORY Landing Gear** General Bend Ovalized Pressure/Forced Bending Grain BOM/Route Over/Under tolerance Temperature/Cure Centre Not Concentric to O/S Hardware Broken/Damaged Cracks Inspection Incomplete Part Incorrect Weld Crushed/Crimped Instructions Incomplete/Unclear Part Lost/Missing Wrong Stock Pulled Burrs Cuffs Contamination Maintenance Part Moved Heat Treat Mislabeled Countersink Positioned Wrong Other Inspection Strip in Tube Power Loss/Surge Cut Too Short Misread Ripples in Bend Drill Holes Offset Torque Waves in Extrusion Drawing **Out of Calibration** Turning Sequence Finish Out of Sequence Folio Wave/Twist in Tube **Outside Dimensions**

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

DART AEROSPACE LTD	Work Order:	107160
Description: Clip Assembly	Part Number:	D3934-1
Inspection Dwg: D3934 Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

	x	First Article		Prototyp	е
Drawing	Tolerance	Actual	Accept	Reject	М

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.098	+0.004/-0.001	0./0/	~	ı	1-JKM01	
Ø0.194	+0.005/-0.001	0.197	/			
0.250	+/-0.010	0.250	/			
0.500	+/-0.010	0.500	/			
0.297	+/-0.010	0.297	/			
0.500	+/-0.010	0.5	_			·
1.00	+/-0.030	/	/			
2.00	+/-0.030	8	/			
0.040	+/-0.010	0.035				
						15
						:
						_
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			DAS		
Measured by:	Q.	Audited by:	27	Prototype Approval:	N/A
Date:	13-10-17	Date:	13 10 17	Date:	N/A

Rev	Date	Change	Revised by	Approved
Α	09.09.15	New Issue	KJ 🥍	AA

QTY -041 ITEM P/N DESCRIPTION X D3934-041 CLIP ASSEMBLY 10 D3934-1 CLIP 20 MS21075L3 NUT PLATE 21 2 MS20426AD3-3 RIVET

D

MS20426AD3-3 --RIVET 2 PL MS21075L3 NUT PLATE

D3934-041 CLIP ASSEMBLY

107160 MLJ 13-09-24

Α	NEW IS:	SUE		PH	09.04.16	
REV.			DESCRIPTION	BY	DATE	
DESIG	1	PO	DART AEROSPACE LTD			
DRAWN PH		PU	HAWKESBURY, ONTARIO, CANADA			
CHECK	ED		DRAWING NO.		REV. A	
MFG. A	IFG. APPR.		D3934		SHEET 1 OF 2	
APPRO	VED	m	TITLE		SCALE	
DE APPR.		4	CLIP ASSEMBLY		NTS	
DATE 09.04.16			COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PROVIDE WAS COMPORTING, AND IS SUPPLIED ON THE DUPRESS CONDITION THAT IT IS NOT TO BE USED FOR MY PURPOSE OR COMPORED OR COMMENTED TO AN OTHER PERSON WITHOUT WRITTEN PRIMISSION FOR UNIT ARROPMED LTD			

NOTES:
1) MATERIAL: N/A
2) FINISH: NOTE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3934-041" USING FINE POINT PERMANENT INK MARKER
7) WEIGHT: 0.02 lbs

8

8

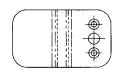
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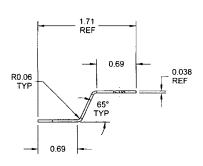
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107160

D

-- 0.500 --0.250 -0.297 Ø0.098 CSK 0.179 X 100° Ø0.194 2.00 - 0.500 R0.25 TYP ---- 1.00 ----







D3934-1F FLAT PATTERN (†)

D3934-1 CLIP (MAKE FROM D3934-1F)



NOTES:
1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET PER AMS 5513 OR 5524
20 GAUGE (0.038 THICK)
REF DART SPEC M304S20GA
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.02 lbs

D

С

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWN DRAWING NO. CHECKED REV. A D3934 MFG. APPR. SHEET 2 OF 2 TITLE APPROVED SCALE CLIP ASSEMBLY DE APPR. NTS COPYRIGHT © 2009 BY DART AEROSPACE LTD

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DESIGN